
LOGAN COUNTY

(Logan County Water Service Area Map)

- Estimated 1999 population of 26,400-- 80% on public water
- Estimated 2020 population of 29,000-- 87% on public water
- 520 miles of water lines, with plans for 110 additional miles
- Estimated funding needs for public water 2000-2005--\$32,810,000
- Estimated funding needs for public water 2006-2020--\$14,373,000

According to a study conducted by the Kentucky State Data Center in Louisville in spring 1999, Logan County as a whole will experience population growth in excess of 10% from the year 1990 through 2000 and almost 20% from the year 1990 through 2020. Logan County had a population of 26,405 (10,824 households) in 1999 with a projected population of 29,004 (12,489 households) in 2020. According to the collected information it does not have an adequate supply of raw water to support any future needs. About 80% of the residents are served by public water. 5 of 6 of those not on public water rely on private wells. About 885 new households will be placed on public water through line extensions in 2000-2020.

Because of the water problem similarities in Logan and Todd counties a Regional Water Commission was formed in 1995. The main focus of this commission was to solve water source, treatment, and conveyance problems in both Logan and Todd Counties. Results of this effort concluded that these counties needs are a new source of water and a new treatment plant facility to assure safe drinking water for the future.

According to the information provided by the Logan Todd Regional Water Commission, "the plan selected by the Commission involves constructing a new raw water intake on the Cumberland River in Clarksville, Tennessee. The water will then be pumped through a pipeline following the R.J. Corman Railroad right-of-way to Guthrie, Kentucky. A new, state-of-the-art water treatment plant will be built at Guthrie to serve all of the two-county area. Treated water will be pumped from the plant to a new storage reservoirs in Todd and Logan Counties, and distributed to all eleven water systems through new distribution

WATER SERVICE AREAS

LOGAN COUNTY

Kentucky

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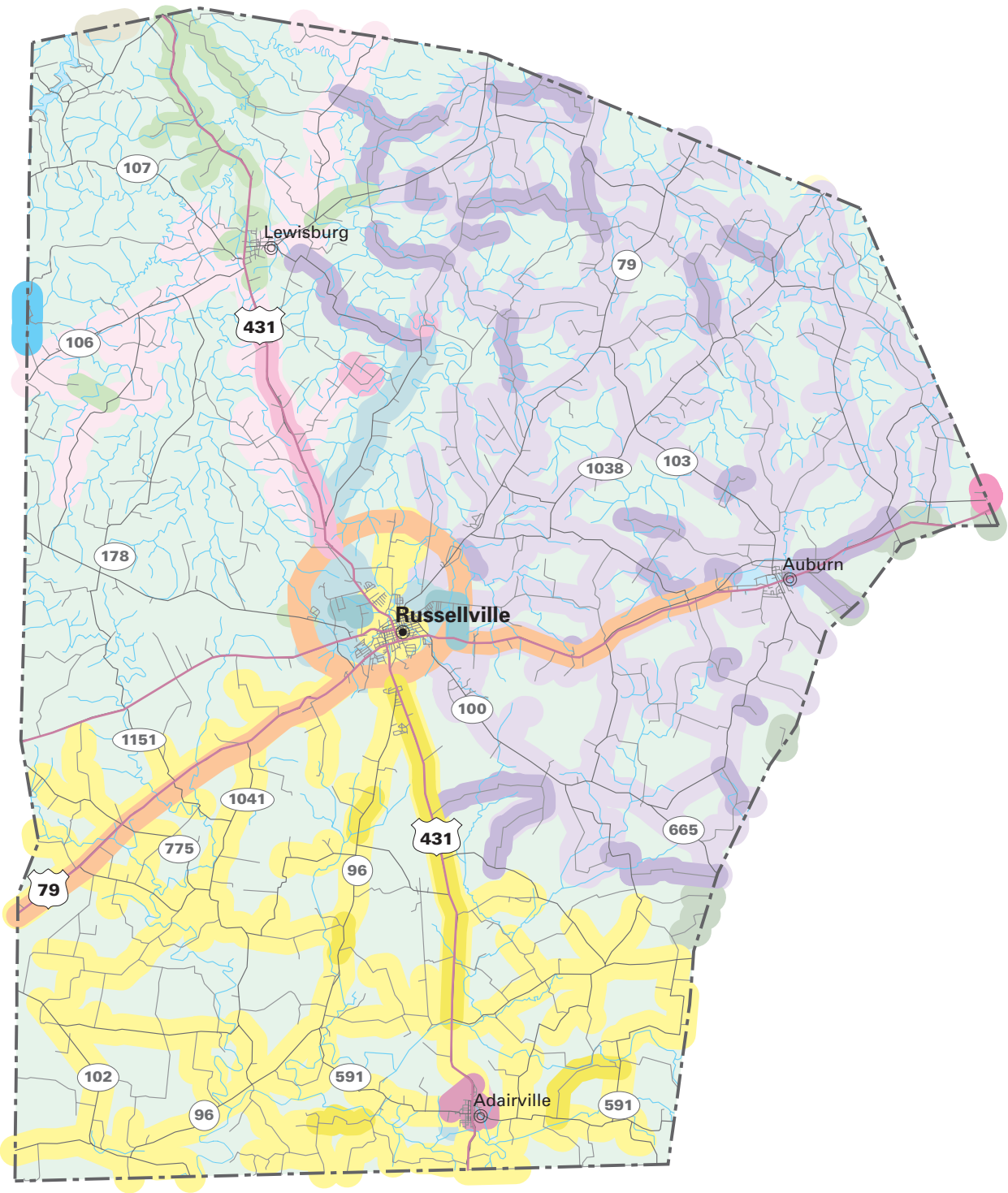
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WATER SERVICE STATUS BY OWNER

EXISTING SERVICE AREA	PROPOSED SERVICE AREA	
		WARREN COUNTY WATER DISTRICT
		TODD COUNTY WATER DISTRICT
		SOUTH LOGAN WATER ASSOCIATION
		SIMPSON COUNTY WATER DISTRICT
		RUSSELLVILLE MUNICIPAL WATER SYSTEM
		NORTH LOGAN WATER DISTRICT
		MUHENBERG COUNTY WATER DISTRICT
		LOGAN TODD REGIONAL WATER COMMISSION
		LEWISBURG WATER WORKS
		EAST LOGAN WATER DISTRICT
		BUTLER COUNTY WATER SYSTEM INCORPORATED
		AUBURN WATER DEPARTMENT
		ADAIRVILLE WATER WORKS

pipelines." Additional Information on project cost estimate, financing, wholesale cost of water, cost to consumer, project schedule, and progress report are attached.

The director of Logan Co. Economic Development Commission provided input on future development in Logan County. It is important to secure enough supply to the existing industrial sites/parks in Lewisburg, to the north of Red Kap and Nelson Company, the industrial site at Adairville, on the north side of town between US 431 and KY 591, and in Russellville, at the older park on Shelton Lane, and at the newer park on the west side of town, west of the new four-line US 68/KY80, north of US 79, and south of the fairgrounds. Additional industrial-zoned sections of Russellville are located on the West Side of town and might be developed as well.

In all, many believe that the development will occur all along the four-lane US 68/KY 80 and will probably develop along the new four-lane US 431 North upon its completion

Another development to watch is the proposed South Central Kentucky Intermodal Industrial Park, on whichever site is selected. One of the sites being considered is South Union in the vicinity of the R.J. Corman Distribution Center. Development along US 431 South is likely, as the new I-840 comes closer to reality.

Logan County has 8,760 service connections and 4,616,000 gallons per day treatment capacity. Total storage capacity is 4,350,000 gallons. The Countywide average costs for the first 5,000 gallons. range from \$37.31 to \$20.65, and average \$27.22. Average operating and management costs per service connection range from \$406 to \$914, and average \$717. Average system losses are 23% and range from 13% to 39%.

Estimated Costs - Proposed Projects, 2000-2005

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/ Pumps	Total
	Miles	Number	Cost in \$1000	In \$1000	in \$1000	in \$1000	in \$1000	in \$1000
LOGAN								
ADAIRVILLE WATER WORKS	.		.	30			30	60
CITY OF RUSSELLVILLE	3.0	230	121			3,500		3,621
EAST LOGAN WATER DISTRICT	48.3		1,329					1,329
LEWISBURG WATER WORKS	16.1	353	600					600
LOGAN TODD REGIONAL WATER COMMISSION	.			22,000			1,200	23,200
NORTH LOGAN WATER DISTRICT	.		.	1,500			1,500	3,000
SOUTH LOGAN WATER ASSOCIATION	12.0	50	400	300			300	1,000
LOGAN COUNTY TOTAL	79.4	633	2,450	23,830		3,500	3,030	32,810

Estimated Costs - Proposed Projects, 2006-2020

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/ Pumps	Total
	Miles	Number	Cost in \$1000	in \$1000	in \$1000	in \$1000	in \$1000	in \$1000
LOGAN								
ADAIRVILLE WATER WORKS	1.6		62	100			53	215
CITY OF RUSSELLVILLE	20.0	200	800	100		3,500	500	4,900
LEWISBURG WATER WORKS	2.7	50	100	100	3,000	1,647		4,847
LOGAN TODD REGIONAL WATER COMMISSION	.			3,974				3,974
NORTH LOGAN WATER DISTRICT	1.7		300					300
SOUTH LOGAN WATER ASSOCIATION	4.0		137					137
LOGAN COUNTY TOTAL	30.0	250	1,399	4,274	3,000	5,147	553	14,373

PUBLIC WATER SYSTEMS

The residents of Logan County are presently provided water by seven systems:

- Russellville Water Department
 - Adairville Water Department
 - Auburn Water Department
 - Lewisburg Water Department
 - North Logan Water District
 - East Logan Water District
 - South Logan Water Association
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RUSSELLVILLE MUNICIPAL WATER SYSTEM

PWSID: 0710378
System Type: COMMUNITY
Owner Type: MUNICIPAL
Surface Source: LAKE HERNDON
Purchase Source:
Well Source:
Sells Water to: SOUTH LOGAN WATER ASSOCIATION
Treatment Plant Capacity (MGD): 2.50
Percent Daily Average Production: 67.00
Total Tank Storage Capacity (gallons): 2,680,000.00
Total Service Connections: 2,914.00
Number of Employees: 8.00
Treatment Operator Class: 2D
Distribution Operator Class: 3A
Customer Rate for 1,000 Gallons: 3.25
O/M costs 1997: Not available
O/M costs per Service Connection: Not available
Net Revenue 1997: Not available
Total Water Produced 1997 (gallons): Not available
Water Sold 1997 (gallons): Not available
Unaccounted-for Water 1997 (%): Not available

The Russellville Water Department gets its water from Lake Herndon and Spa Lake described in the Logan County Water Supply Plan does not have an adequate supply of raw water for future needs. The District currently serves 2,505 customers within its territory. Additionally, the District serves other customers outside its boundaries. The Districts operates a Water Treatment Plant that can produce 2.5 million gallons per day. On an average day the plant produces approximately 1,600,000 gallons of water. The Districts storage system consists of four tanks. The total storage capacity of the district is 2.68 million gallons. The calculated charge for 5,000 gallons of treated water (residential usage) is currently \$ 16.27. There will be an increase in water rates, becoming effective July 1, 1999, in the amount of fifty-five cents per 1000 gallons. The Russellville water Department has a total of eight employees: five certified water treatment plant operators and one certified to operate the distribution system. The other employees provide billing and financial oversight. The need for water service expansion in the Russellville Water Department territory results primarily from the rapid subdivision development in many of its rural areas as well as other areas. Currently in the territory of the Russellville Water Department every household is being served, although the quantity is not the desired. The District's distribution system will require new water extension lines as well as many upgrades to increase and maintain an

adequate flow and pressure. To meet current as well as the future needs of the county, projects have been selected and ranked by the Infrastructure, Development and Water Supply Council, which includes Logan County system representatives, elected officials, and other members of the community. The Barren River Area Development District's Board of Directors endorses these projects for being crucial to the future growth and development of the region.

ADAIRVILLE WATER WORKS

PWSID: 0710001
System Type: COMMUNITY
Owner Type: MUNICIPAL
Surface Source: SOUTH FORK RED RIVER
Purchase Source:
Well Source:
Sells Water to: SOUTH LOGAN WATER ASSOCIATION
Treatment Plant Capacity (MGD): 1.05
Percent Daily Average Production: 55.00
Total Tank Storage Capacity (gallons): 1,500,000.00
Total Service Connections: 406.00
Number of Employees: 5.00
Treatment Operator Class: 1D
Distribution Operator Class: 3A
Customer Rate for 1,000 Gallons: 3.36
O/M costs 1997: Not available
O/M costs per Service Connection: Not available
Net Revenue 1997: Not available
Total Water Produced 1997 (gallons): Not available
Water Sold 1997 (gallons): Not available
Unaccounted-for Water 1997 (%): Not available

The Adairville Water Department gets its water from South Fork of Red River, and, as described in the Logan County Water Supply Plan, it does not have an adequate supply of raw water for future needs. The District currently serves 400 customers within its territory. Additionally, the District sells treated water to the South Logan Water District. The District operates a Water Treatment Plant that can produce 1.05 million gallons per day. On an average day the plant produces approximately 500,000 gallons of water, less than 50% of its designed capacity. The District storage system consists of two tanks with a total storage capacity of 1,500,000 gallons. The calculated charge for 5,000 gallons of treated water (residential usage) is currently \$16.80. The Adairville Water Department has a total of four

employees: two certified water treatment plant operators and two certified to operate the distribution system. The other employees provide billing and financial oversight.

The need for water service expansion in the Adairville Water Department territory results primarily from the rapid subdivision development in many of its rural areas as well as other areas.

AUBURN WATER DEPARTMENT

PWSID: 0710012
System Type: COMMUNITY
Owner Type: MUNICIPAL
Surface Source: SPRING STREET
Purchase Source:
Well Source:
Sells Water to:
Treatment Plant Capacity (MGD): 0.40
Percent Daily Average Production: 57.00
Total Tank Storage Capacity (gallons): 500,000.00
Total Service Connections: 450.00
Number of Employees: 2.00
Treatment Operator Class: 2D
Distribution Operator Class: 2A
Customer Rate for 1,000 Gallons: 3.81
O/M costs 1997: Not available
O/M costs per Service Connection: Not available
Net Revenue 1997: Not available
Total Water Produced 1997 (gallons): Not available
Water Sold 1997 (gallons): Not available
Unaccounted-for Water 1997 (%): Not available

The Auburn Water Department gets its water from Auburn Spring (Blue Hole & East Logan Water District), and, as described in the Logan County Water Supply Plan, does not have an adequate supply of water for future needs. The District currently serves 440 customers within its territory. The Districts operates a water treatment plant that can produce 400,000 gallons per day. On an average day the plant produces approximately 240,000 gallons of water, less than 40% of its designed capacity. The District's storage system consists of one tank with a capacity of 500,000 gallons. The calculated charge for 5,000 gallons of treated water (residential usage) is currently \$ 19.05. The Auburn Water Department has a total of two employees: one certified water treatment plant operator and one certified to operate the distribution system. The other employees provide billing and financial oversight.

LEWISBURG WATER WORKS

PWSID: 0710247
System Type: COMMUNITY
Owner Type: MUNICIPAL
Surface Source: SPA LAKE
Purchase Source: NORTH LOGAN
Well Source:
Sells Water to:
Treatment Plant Capacity (MGD): 0.50
Percent Daily Average Production: 32.00
Total Tank Storage Capacity (gallons): 2,000,000.00
Total Service Connections: 962.00
Number of Employees: 3.00
Treatment Operator Class: 2D
Distribution Operator Class: 3A
Customer Rate for 1,000 Gallons: 4.15
O/M costs 1997: Not available
O/M costs per Service Connection: Not available
Net Revenue 1997: Not available
Total Water Produced 1997 (gallons): Not available
Water Sold 1997 (gallons): Not available
Unaccounted-for Water 1997 (%): Not available

The Lewisburg Water Department gets its water from Spa Lake and North Logan Water District, and, as described in the Logan County Water Supply Plan, does not have an adequate supply of raw water to support any future needs. The District currently serves 896 customers within its territory. The District operates a water treatment plant that can produce 500,000 gallons per day. The District's storage system consists of two tanks with total storage capacity of 2,000,000 gallons. The calculated charge for 5,000 gallons of treated water (residential usage) is currently \$ 20.75. The Lewisburg water Department has two employees: one certified water treatment plant operator and one certified to operate the distribution system. The other employee provides billing and financial oversight.

The need for water service expansion in the Lewisburg Water Department territory results primarily from the rapid subdivision development in many of its rural areas as well as other areas.

NORTH LOGAN WATER DISTRICT

PWSID: 0710318
System Type: COMMUNITY
Owner Type: WATER DISTRICT
Surface Source:
Purchase Source: RUSSELLVILLE
Well Source:

Sells Water to:	LEWISBURG WATER WORKS
Treatment Plant Capacity (MGD):.....	0.00
Percent Daily Average Production:.....	0.00
Total Tank Storage Capacity (gallons):	100,000.00
Total Service Connections:	541.00
Number of Employees:.....	1.00
Treatment Operator Class:	2D
Distribution Operator Class:	
Customer Rate for 1,000 Gallons:.....	3.25
O/M costs 1997:.....	168,891.00
O/M costs per Service Connection:	319.87
Net Revenue 1997:	38,453.00
Total Water Produced 1997 (gallons):.....	0.00
Water Sold 1997 (gallons):	40,289,000.00
Unaccounted-for Water 1997 (%):	39.06

The North Logan Water District gets its water from Russellville Water Department, which, as described in the Logan County Water Supply Plan, does not have an adequate supply of water for future needs. The District currently serves 528 customers within its territory. The District's storage system consists of one 100,000 gallon tank. The calculated charge for 5,000 gallons of treated water (residential usage) is currently \$16.27, which will increase to \$25.80 on July 1, 1999. The North Logan Water District has one employee certified to operate the distribution system.

The need for water service expansion in the North Logan Water District Water Department territory results primarily from the rapid subdivision development in many of its rural areas as well as other areas.

EAST LOGAN WATER DISTRICT

PWSID:	0710951
System Type:.....	COMMUNITY
Owner Type:	WATER DISTRICT
Surface Source:	
Purchase Source:	RUSSELLVILLE
Well Source:	
Sells Water to:	
Treatment Plant Capacity (MGD):.....	0.00
Percent Daily Average Production:.....	0.00
Total Tank Storage Capacity (gallons):	420,000.00
Total Service Connections:	2,021.00
Number of Employees:.....	9.00
Treatment Operator Class:	2D
Distribution Operator Class:	
Customer Rate for 1,000 Gallons:.....	7.46
O/M costs 1997:.....	455,797.00
O/M costs per Service Connection:	228.70

Net Revenue 1997:	206,220.00
Total Water Produced 1997 (gallons):	0.00
Water Sold 1997 (gallons):	118,268,200.00
Unaccounted-for Water 1997 (%):	13.01

The East Logan Water District gets its water from Russellville Water Department, described in the Logan County Water Supply Plan as not having adequate raw water for future needs. The District currently serves 2,021 customers within its territory. The districts storage system consists of two water tanks with storage capacity of 420,000 gallons. The calculated charge for 5,000 gallons of treated water (residential usage) is currently \$37.31. The East Logan Water District has a total of nine employees: two certified water treatment plant operators and the other employees provide billing and financial oversight.

The need for water service expansion in the East Logan Water District territory results primarily from the rapid subdivision development in many of its rural areas as well as other areas.

SOUTH LOGAN WATER ASSOCIATION

PWSID:	0710707
System Type:	COMMUNITY
Owner Type:	WATER ASSOCIATION
Surface Source:	
Purchase Source:	ADAIRVILLE
Well Source:	
Sells Water to:	
Treatment Plant Capacity (MGD):	0.00
Percent Daily Average Production:	0.00
Total Tank Storage Capacity (gallons):	300,000.00
Total Service Connections:	1,465.00
Number of Employees:	0.00
Treatment Operator Class:	2D
Distribution Operator Class:	
Customer Rate for 1,000 Gallons:	4.14
O/M costs 1997:	364,062.00
O/M costs per Service Connection:	256.02
Net Revenue 1997:	93,370.00
Total Water Produced 1997 (gallons):	0.00
Water Sold 1997 (gallons):	130,353,900.00
Unaccounted-for Water 1997 (%):	16.03

The South Logan Water Association gets its water from Adairville Water Department, described in the Logan County Water Supply Plan as not having an adequate supply of raw for future needs. The Association currently serves 1,414 customers within its territory.

Additionally, the association sells treated water to Todd County Water District. The association's storage system consists of three water tanks with total capacity of 300,000 gallons. The calculated charge for 5,000 gallons of treated water (residential usage) is currently \$ 23.70. The need for water service expansion in the South Logan Water Association territory results primarily from the rapid subdivision development in many of its rural areas as well as other areas.

OTHER SYSTEMS

LOGAN ALUMINUM INC

Logan Aluminum Inc. is located in Logan County. The system serves a population of 800 and has 1 service connection. The system has treatment capacity of 300,000 gal per day. The water source is surface water from Spa Lake.

PRIVATE DOMESTIC SYSTEMS

About 5,200 people in Logan County rely on private domestic water supplies: 4,300 on wells and 900 on other sources.

In the southern half of Logan County more than three-quarters of the drilled wells in the uplands are adequate for a domestic supply. Yields as high as 50 gpm have been reported from wells penetrating large solution channels. In the low-lying areas of the Red River and its main tributaries most wells are inadequate for domestic use unless the well intercepts a major solution opening in the limestone in which the yield could be very large. Ground-water in the northern half of the county is not as prevalent as in the southern half of the county. Only a few wells in the northern half of the county yield enough water for a domestic supply.

Springs with flows ranging from a few gallons per minute too 2636 gpm are found in the county. Minimum flow generally occurs in early fall, maximum flows in late winter.
